

## Remarks

### Status of the Application

The Office rejected Claims 1-23 under 35 U.S.C. § 103(a) as unpatentable over *Rosenberg* (U.S. 6,259,382) in light of *Snibbe* (U.S. 6,496,200).

#### U.S. Patent 6,259,382 (*Rosenberg*)

*Rosenberg* teaches a force feedback interface having isotonic and isometric modes of operation. *See, e.g., Rosenberg* Abstract. Much of *Rosenberg*'s teaching concerns specific two-dimensional device embodiments. *See, e.g.,* Figures 1-7, columns 5-25. The remainder of *Rosenberg* generally concerns specific two-dimensional user interfaces, including detail about specific force profiles, software implementations corresponding to the two-dimensional devices, and integration with existing planar window-based interfaces. *See, e.g., Rosenberg* Figures 8-16, columns 26-50.

#### U.S. Patent 6,496,200 (*Snibbe*)

*Snibbe* teaches a haptic interface device, providing a haptic display of an environment. *Snibbe* teaches changing the resolution of the haptic display based on interactions with the user. *See, e.g., Snibbe* Abstract. *Snibbe*'s haptic interactions comprise simulated detents in rotation of a knob, a squeezable bulb or handle, and a force-sensing arm. *See, e.g., Snibbe* column 10. *Snibbe* teaches a system that allows a user to interact with differing haptic resolutions, where **resolution** is defined by *Snibbe* to be the magnitude of change in haptic sensation per unit change in the environment. *See Snibbe* column 5 lines 6-9. *Snibbe* teaches that the system allows the user to interact at different levels of haptic detail. *See Snibbe* column 5 lines 32-40. *Snibbe* teaches non-haptic resolution control if the user is navigating haptically. *See Snibbe* column 14 lines 6-13. *Snibbe* teaches communication of feedback force in two dimensions to a user, but has no mention of force input from a user or force-based interactions in three dimensions.

#### Combination of *Rosenberg* and *Snibbe*

Applicant previously urged that the combination of *Rosenberg* and *Snibbe* does not establish a *prima facie* case of obviousness of the Claims because there is no teaching or suggestion for making the Office's combination. Obviousness can **only** be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either **explicitly or implicitly in the references themselves** or in the knowledge **generally available to one of ordinary skill in the art**. *See* MPEP 2143.01. The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. *See* MPEP 2142. The Office, in its most recent Office Action, asserts "The motivation is to reduce the requirement for visual attention for control of scrolling of the display." *See* Office Action page 6, first paragraph. Even if that is sufficient motivation, the only mention of such motivation is in Applicant's specification and in the Office's

unsupported assertion. The Office has not identified any teaching explicitly or implicitly in the references, nor any evidence that the knowledge generally available to one of ordinary skill in the art would provide the required motivation. Accordingly, Applicant submits that the examiner has not met the required burden, and that there is no *prima facie* case of obviousness.

As pointed out in Applicant's previous response, the Office's proposed combination requires that the principle of operation of *Snibbe* be changed. *Snibbe* teaches the use of haptic feedback to control the resolution of a haptic display, where resolution means the magnitude of change of haptic sensation. See, e.g., *Snibbe* Abstract; *Snibbe* column 5 lines 6-9. *Snibbe* teaches **no way** to combine resolution control with haptic navigation. Instead, *Snibbe* teaches that, if haptics are used for navigation, then the resolution control can be accomplished by a separate, non-haptic input. See *Snibbe*, column 14 lines 6-13. The proposed combination accordingly requires traversing *Snibbe*'s express teaching. A combination that changes the principal of operation of a reference is not proper. See MPEP 2143.01 ("If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)"). Applicant submits that the combination of *Snibbe* with *Rosenberg* is not suggested by the art, and that consequently there is no *prima facie* case of obviousness of Claims 1-23.

#### **The combination as applied by the Office to Claims 21-23**

Claims 21-23 concern specific three-dimensional control zones, defined as three-dimensional spaces where an input device may be moved. The Office asserted that "Rosenberg teaches the three-dimensional control zone when *Rosenberg* recites "however three dimensional GUI's that present simulated 3-D environments on a 2-D screen can also be provided... The user may provide input to control a 3-D view..." Applicant notes the mention of three dimensional GUI's in the background section of *Rosenberg* as quoted by the Office, but also notes this the **only** mention of three dimensional interaction in *Rosenberg*. By contrast, Claims 21-23 concern **three dimensional input devices**, not mentioned in *Rosenberg*. Further, Claims 21-23 concern specific control zones implemented in the range of motion of a **three dimensional input device**. *Rosenberg*'s mention of 3D simulation using 2D devices does not supply any teaching of a **3D input device** and **specific 3D control zones** recited in Claims 21-23. Accordingly, even if the combination is proper, there is no mention of 3D input devices or **control zones reachable by 3D motion of an input device**, and thus there can be no *prima facie* case of obviousness of Claims 21-23.

## Clarification of the Office's Reasoning and Citations

Applicant maintains its previous assertion that the art does not teach or suggest all the limitations of the Claims. Applicant appreciates the Office's detailed explanation of the rejections, and the citations to specific sections in the art asserted to supply the teaching. Many of the Office's assertions, however, are not supported by the art. In many, the section cited by the Office is **wholly unrelated** to the teaching asserted by the Office to be supplied by that section, as illustrated by the citations discussed below. Since the art does not provide the required teaching, Applicants urge that the Office has not established a *prima facie* case of obviousness of the Claims.

*Rosenberg*, at column 6 lines 50-65, contrary to the Office's assertion, does not teach threshold distances. Instead, that section teaches the meaning of terms such as "grasp," "user object," "widget."

*Rosenberg*, at column 7 lines 31-65, contrary to the Office's assertion, does not teach control of the rate of change of a changing portion of an item displayed. Instead, that section teaches sensing motion of an input device, provision of forces simulating jolts, springs, textures, and barriers. It also begins a discussion of specific electronic packaging.

*Rosenberg*, in column 4 lines 38-65, contrary to the Office's assertion, does not teach scrolling the display of a document according to the nearest edge of the document. Instead, that section teaches scrolling relative to a point of origin of an input device (e.g., scrolling based on a point, rather than on an edge).

*Rosenberg*, in column 21 line 50 through column 22 line 20, contrary to the Office's assertion, does not teach scrolling the display of a document according to the nearest edge of the document. Instead, that section teaches specific designs and interactions of a user's fingers with a "puck," and has no mention of scrolling or any interaction with any virtual or simulated object.

*Rosenberg*, in column 7 line 40 through column 8 line 20, contrary to the Office's assertion, does not teach determining if a user indicates a transition into a control zone. Instead, that section concerns actuators, forces to simulate springs, jolts, etc., and specific electronic packaging.

*Rosenberg*, in column 21 line 1 through column 22 line 18, contrary to the Office's assertion, does not teach interaction according to an application associated with a document. Instead, that section concerns safety or "deadman" switches, electronic interfaces, the configuration of a "puck," and interaction of a user's fingers with such a puck.

*Rosenberg*, in column 7 lines 15-55, contrary to the Office's assertion, does not teach changing the portion of an item displayed. Instead, that section teaches specific mechanical interface apparatuses, actuators, and simulated forces.

*Rosenberg*, in column 11 lines 31-57, contrary to the Office's assertion, does not teach detecting movement of a user-positioned cursor into a control zone. Instead, that section concerns capstan drive mechanisms.

### Conclusion

Applicant has responded to each and every rejection and urges that the Claims as presented are in condition for allowance. Applicant requests expeditious processing to issuance, or a timely response so that Applicant can thoroughly respond by appeal.

Respectfully submitted,



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Sep. 24, 2004  
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